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imagery analysis report

New Soviet Naval SAM System (S)

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NEW SOVIET NAVAL SAM SYSTEM (S)

1. (S/WN) Recent changes in the design of Soviet naval combatants reflect concern for the threat posed by cruise missiles and high-performance aircraft. Improvements have recently been made in the design, production, and employment of dual-purpose guns, Gatling guns, and long- and medium-range surface-to-air missiles (SAMs). The only effective short-range SAM in the Soviet naval inventory is the SA-N-4; however, it is considered to be only marginally effective against cruise missiles and high-performance aircraft. Recent evidence indicates that a new short-range SAM will replace the SA-N-4 as the primary short-range SAM in the Soviet Navy. This SAM system probably will initially become operational on the new Udaloy-class guided missile destroyer (DDG; Figure 1).

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Udaloy Radar and Probable SAM Positions

2. (S/WN) No SAM system had been installed on the Udaloy, the first unit of the Udaloy-class DDG, when it began sea trials in the Baltic Sea in October 1980. As of June 1982, a SAM system still had not been installed; however, eight unoccupied, probable SAM positions and two empty radar platforms have been identified on the Udaloy.

3. (S/WN) The forward positions on the Udaloy (Figure 2) are one unoccupied 5-meter-diameter radar platform and four 2-meter-diameter probable SAM positions. The radar platform has a short central pedestal and is mounted approximately 1 meter above the bridge. The four probable SAM positions are in pairs in a 1-meter-high raised structure on the forward deck between the bow and the forwardmost main gun mount. These probable SAM positions flank, on port and starboard, a box-type structure, [REDACTED] that is similar in appearance to the US Navy's Armored Box Launching System for the Tomahawk and Harpoon cruise missiles (Figure 3). No additional evidence is available to indicate that this box-type structure is a launcher.

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4. (S/WN) The aft positions on the Udaloy (Figure 4) are an unoccupied radar platform, identical to the forward platform, and four 2-meter-diameter probable SAM positions. This radar platform is 1 meter above the aft portion of the helicopter hangar. The four probable SAM positions are in pairs in a T-pattern—two are at the forward end of the helicopter hangar, and two are between the torpedo tubes.

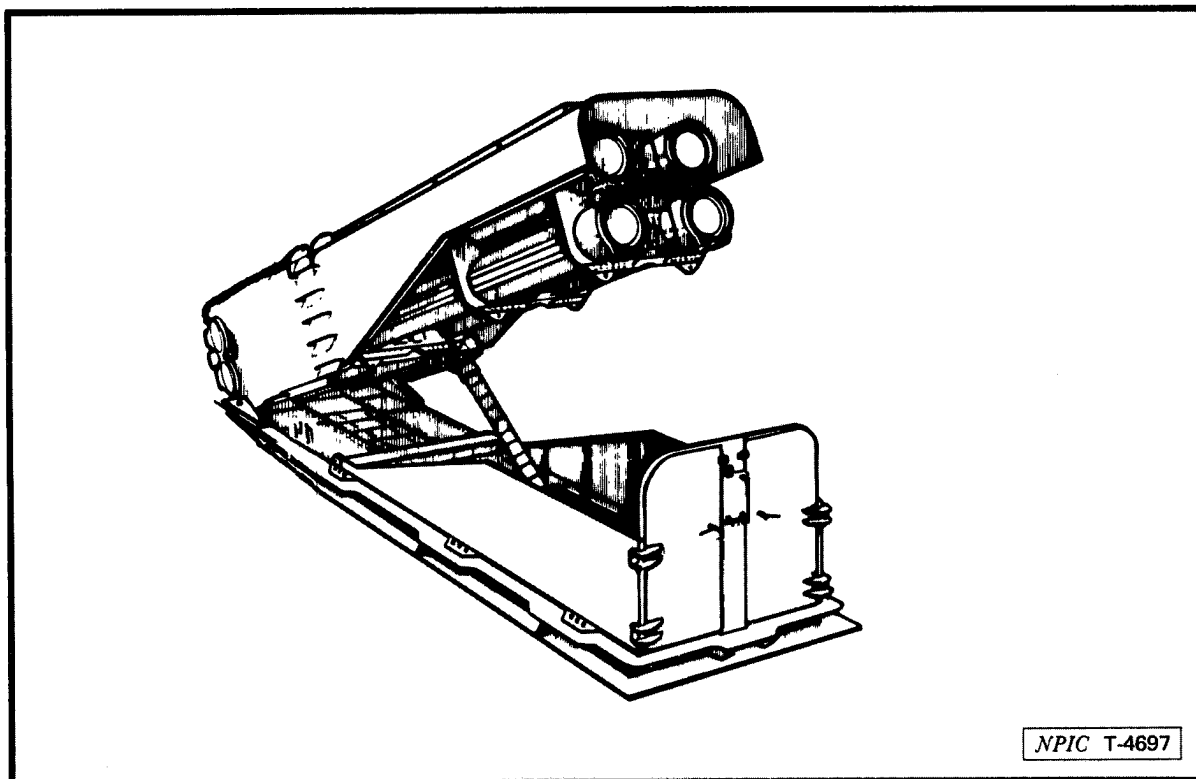


FIGURE 3. US ARMORED BOX LAUNCHING SYSTEM FOR TOMAHAWK AND HARPOON CRUISE MISSILES. Drawing compliments of FMC Corp, Northern Ordnance Division, Minneapolis, MN (UNCLASSIFIED).

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5. (S/WN) Similar 2-meter-diameter probable SAM positions have been identified on the second unit of the Kirov-class nuclear powered guided missile cruiser (CGN; Figure 5) and possibly on the 444-D (formerly Kiev unit 4) guided missile aircraft carrier (CVHG; Figure 6).

Grisha IV Test Platform

6. (S/WN) The Grisha IV light frigate (FFL; Figure 7) will probably serve as the test platform for this new naval SAM system. The Grisha IV is much different than all other Grisha units.¹ After arrival in the Black Sea in May 1981, the Grisha IV was modified with the addition of a probable back-to-back planar-array radar and three 2-meter-diameter raised SAM positions. The radar, which is mounted on a 5-meter-diameter semicircular platform on a new large deckhouse, could control both the SAM system and a Gatling gun. The SAM positions are just forward of the superstructure and aft of the bow in the former SA-N-4 position. The Grisha IV will probably conduct missile testing in the Feodosiya area of the Black Sea in the near future.

Land-Based Test Facility

7. (S/WN) In October 1978, the Soviets began construction of a facility for testing a probable follow-on missile for the SA-8 system at pad B-1 in Launch Area B of the Emba Missile Test Center Launch Complex ()² The SA-N-4 is the naval version of the SA-8. On () an EMBA-05 transporter-erector-launcher and radar (TELAR) was identified at this complex (Figure 8). This TELAR has been assessed to be the follow-on to the SA-8 SAM system.

8. (S/WN) No missile, missile racks, or missile rails have been seen on this TELAR; however, adequate space for this equipment is present. The configuration of this TELAR indicates that it would be capable of firing the follow-on missile to the SA-8/SA-N-4, which is expected to be 2 to 4 meters long. This follow-on missile will probably be used with the Udaloy SAM system.

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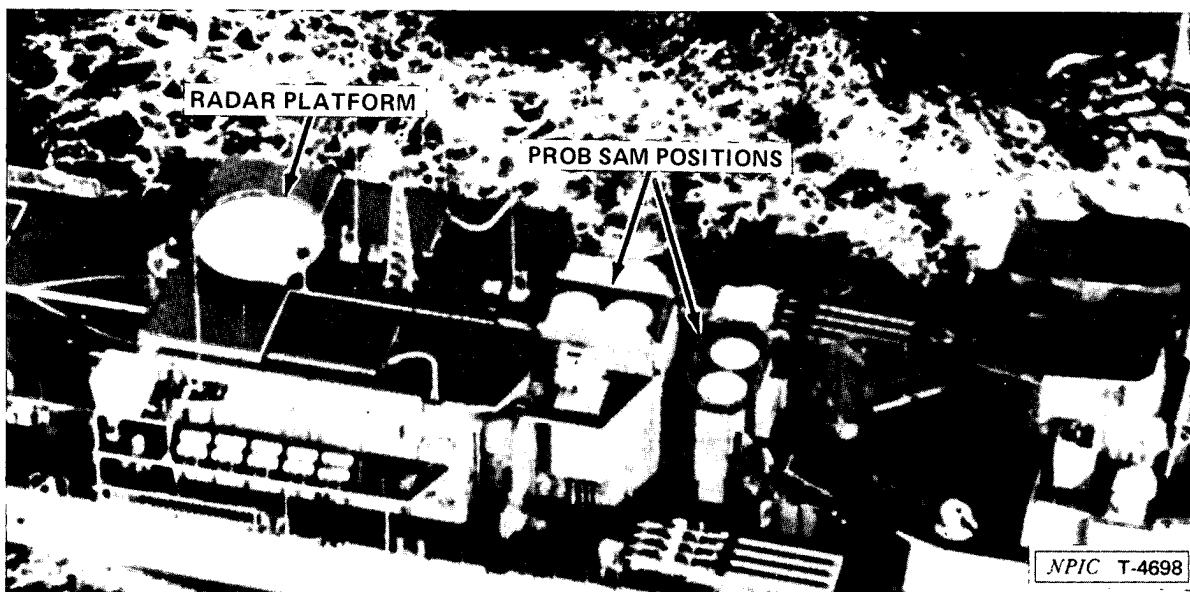


FIGURE 4. AFT RADAR AND PROBABLE SAM POSITIONS ON THE UDALOY. DIA photograph 6892 5334 81, 1981 (SECRET).

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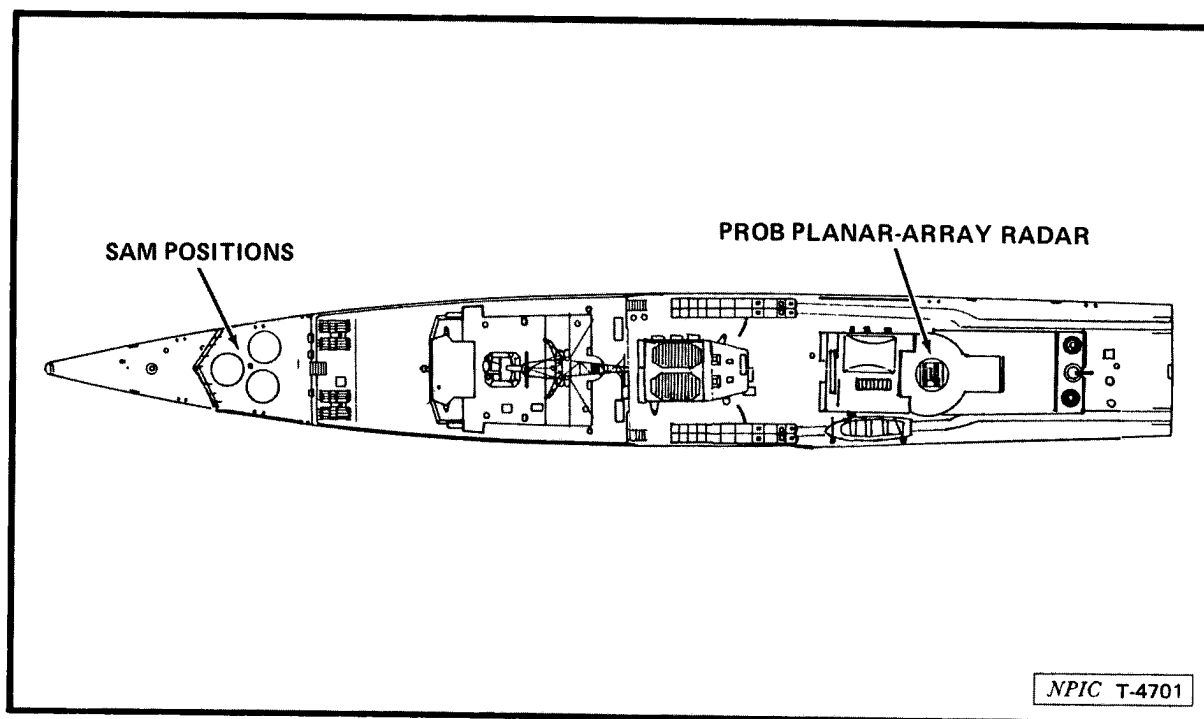


FIGURE 7. CONCEPTUAL DRAWING OF THE GRISHA IV FFL

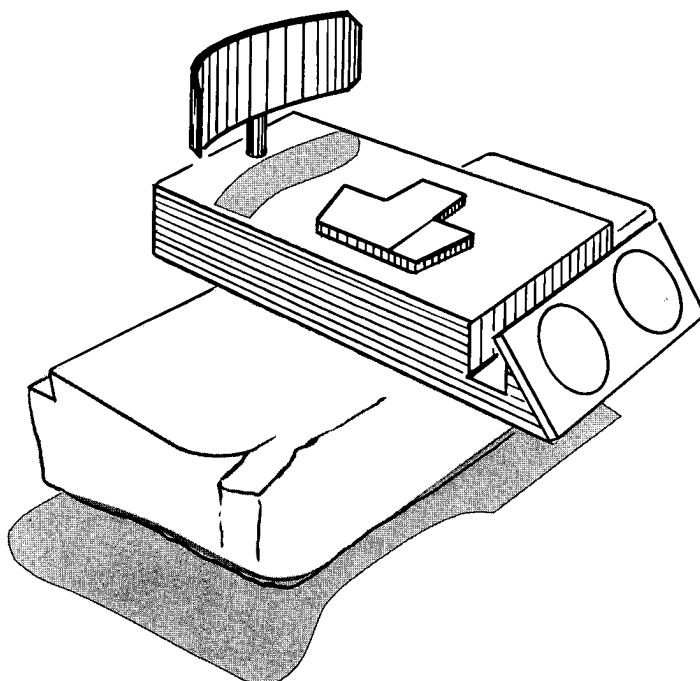


FIGURE 8. CONCEPTUAL DRAWING OF THE EMBA-05 TELAR

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SECRET**SAM Production Facility**

9. (S/WN) Kirov Missile and Aircraft Component Plant 32 [] is the only installation identified on imagery as producing SA-N-1/SA-3, SA-N-3, and SA-N-4/SA-8 missiles (Figure 9). Plant expansion, particularly the construction of a large fabrication/assembly building, is underway at the western corner of this facility. This building consists of four fabrication/assembly bays, an attached nine-story administration annex, and a two-level assembly bay.

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10. (S/WN) When complete, this building will probably provide a facility for the production of a new SAM. The past association of Plant 32 with naval SAMs and the construction of this building indicate that the missile for the new Udaloy SAM system may be produced at this plant.

Imagery Analyst's Comments

11. (S/WN) The vulnerability of Soviet naval combatants necessitates the development of improved SAM systems. The new SA-N-6 and SA-N-7 represent a significant improvement in long- and medium-range SAM systems. An additional system is needed to counter cruise missiles at low altitudes and at close range. Vertically launched missiles and a multifunctional planar-array radar would provide the capability needed to fire and control numerous missiles against multiple targets.

12. (S/WN) The air defense system installed on the Grisha IV FFL, which is compatible with positions on the Udaloy DDG, Kirov CGN (unit 2), and possibly the 444D (formerly Kiev unit 4), seems to fulfill the requirement for a close-range SAM system. It is possible that some older units, especially those fitted with the SA-N-4, will be retrofitted with this system. Future combatants and auxiliaries will probably receive this system.

REFERENCES**IMAGERY**

(S/WN) All applicable satellite imagery acquired from [] was used in the preparation of this report.

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DOCUMENTS

1. NPIC. Z-20172/81, IAR-0209/81, *Modified Grisha Light Frigate, USSR (S)*, Oct 81 (SECRET, []) 25X1
2. NPIC. Z-20128/81, IAR-0164/81, *Possible New SAM System Identified at Emba Missile Test Center, USSR (S)*, Aug 81 (SECRET, []) 25X1

(S) Comments and queries regarding this report are welcome. They may be directed to CWO-4 [] USN, Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC, [] or green extension [] 25X1

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